

UTILITY and ENERGY PROGRAM



ARMY ENERGY PROGRAM

Ambitious Goals Toward a Sustainable Future



20,000 Solar Systems by 2010

Reduce Facility Energy Use
35% FY '85-'10



Reduce CO₂ Emissions 30%
FY '90-'10



Money Isn't All You're Saving

Strive to Meet ENERGY STAR® Criteria
for Energy Performance and Indoor
Air Quality in Buildings



Reduce
Petroleum Use

Reduce Energy Use in
Industrial Applications
20% ('90-'05), 25% ('90-'10)



Reduce Electrical Use



Audit 10% of Facilities Annually



Reduce Water
Consumption



UTILITY and ENERGY PROGRAM



OVERVIEW

UTILITY AND ENERGY PROGRAM

**Mr. Don LaRocque, Chief, Public
Works/Engineering**

HQ IMA



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FUNCTIONS & RESPONSIBILITIES

**ACSIM- POLICY, PLAN, PROGRAM AND
BUDGET**

IMA- EXECUTION AND IMPLEMENTATION



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IMA Public Works Branch

MISSION

Provide day to day execution, oversight, and management of PW & Engineer functions to include SRM of Real Property Facilities, Energy/Utilities, Master Planning, Engineer Business Operations, Army Family Housing (incl RCI), UPH, MCA, and Fire and Emergency Services.

PEOPLE & FUNCTIONS

Don LaRocque - Chief (703-604-2682/602-5486)

William Sugg - Bus Ops, Eng Tng, SRM (703-602-6412)

Barry Bartley - MCA, UPH, 1391 documents (703-602-3389)

Connie Lofti - AFH (PCS'ng from EURO. Starts in Jan.)

Bob Henson - AFH (703-602-5241)

Muthu Kumar & Paul Volkman - Energy/utilities (703-602-2682)

John Peasley - Master Plng/RP, Demolitions, RPLANS, IDS (703-602-448)

Dale Means - F&ES, EUL (703-602-3390)

Bob McKeever - Natn'l Museum (703-602-4227)

CURRENT ISSUES/INITIATIVES

- Master Planning - IDS, ASIP & RPLANS cleanup, charrettes, NETCALL, RPMP & IPB, Enhanced Use Leasing.
- SRM - FY04 1-N project list, Project Prioritization System, Demolitions, Bridge/Dam/Railroad inspections.
- AFH - FY04 AFHO distribution, FY08 goal for quality housing, RCI integration.
- Energy - ESPC-FY04 continuing legislation, Gas Risk Management, Central Energy System modernization, Utility Modernization, Utility Privatization.
- MilCon - MCA list update, Future Development Plans, IMA project prioritization, Mission/BASOPS proponentcy, 1-1 demo criteria, OMA & OPA tails.
- DPW Workshop, DPW Awards, DPW Digest, ACP (OMA & MCA const)



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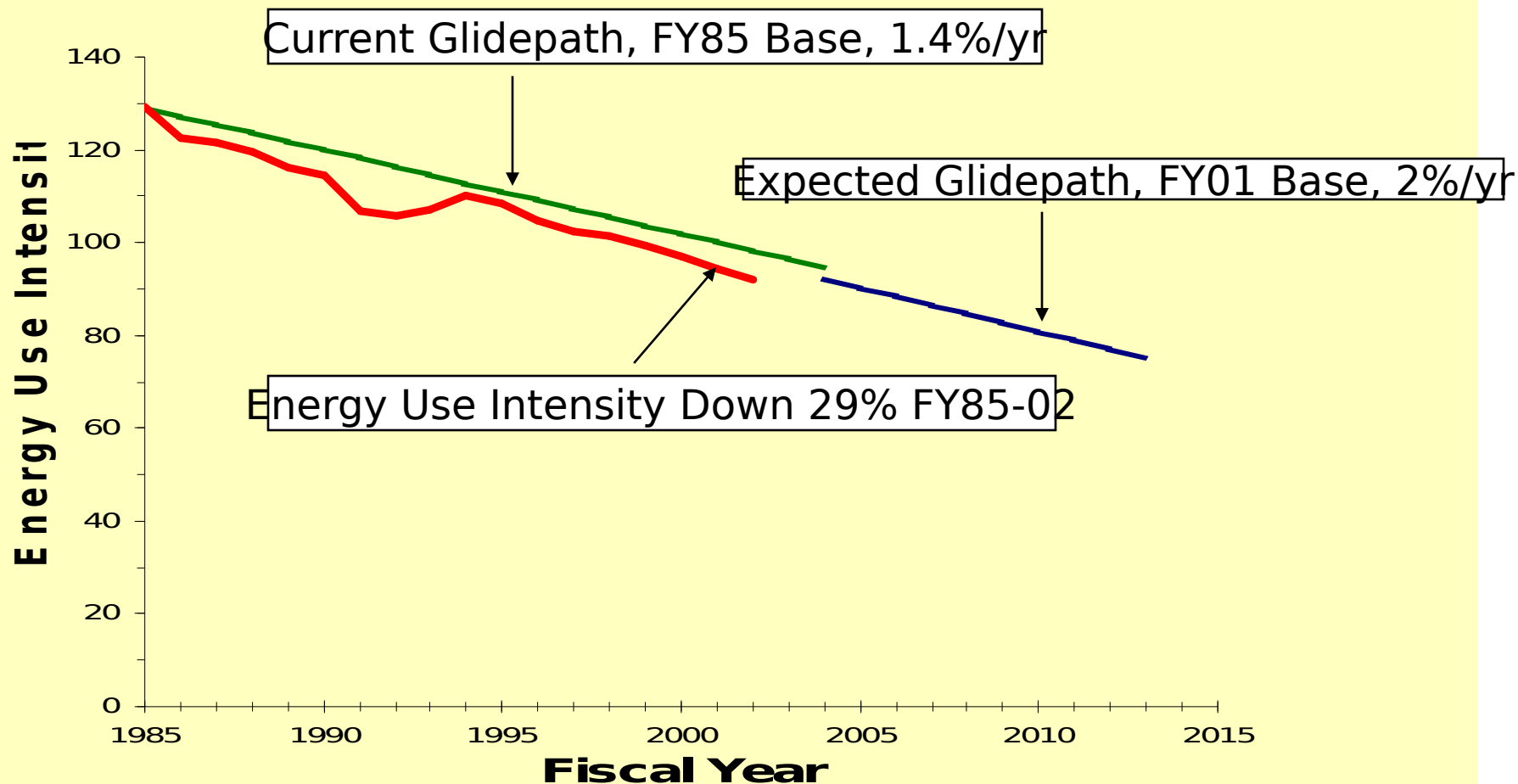
OBJECTIVES OF HQ IMA

- Improve Energy Efficiency and conservation in Army Facilities by 30% by 2005 and 35% by 2010 compared with 1985 baseline
- Manage and execute Army Energy Program and Utility Privatization effectively and efficiently through the Regions.
- Provide training and energy awareness seminars
- Encourage regions/installations participation in DOE Federal Energy & Water Management Award program and Secretary of Army Award program.

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Army Facility Energy Consumption





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Army Energy Quality Management Board

Chair-ACSIM

Facilitator- IMA

Voting Members

- ASA**
- ACSIM**
- IMA**
- HQUSACE**
- Region (X 7)**

Non-Voting Members

- Huntsville Corps of Engineers**
- Construction Engineering Research Laboratory**
- Pacific Northwest National Laboratory, DOE**
- Installation Energy Officers**
- Consultants**



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Strategic Energy Management Objectives

1. Programs Policy/Guidance

- **Army Energy Master/Management Plan**
- **AR 420-41 Power Procurement Update**
- **AR 420-49 update**
 - **AR 11-27 update**
- **Website Development/Maintenance**
- **TM Design Criteria, Design standards etc**

2. Infrastructure Investments

- **ESPC/UESC**
- **Utilities Privatization**
- **Utility Modernization**
- **Central Energy Plant Modernization**
- **Energy Conservation Improvement Program**
- **Strategic Energy Plant**
- **Renewable Energy**



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Strategic Energy Management Objectives

3. Energy Management Practices

- **Water Conservation Management**
- **Energy Management (turn off lights)**
- **Corrosion control**

4. Training/Seminars

5. Commodity Management

- **Natural Gas Risk Strategy**
- **Electrical Power Risk Management**

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ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC)

- ESPC is contracting methodology in which a private contractor called an ESCO performs services that include: audits, evaluation, design, financing, acquisition, installation and maintenance of energy efficient equipment, altered operation and maintenance improvements, technical services, and for the installation.
- The ESCO receives compensation from the savings generated over time such that energy and ancillary costs do not increase



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ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC)

- Energy Policy Act of 1992 -- Expired
- Guaranteed performance
- Benefits
 - Alternative method of financing energy projects
 - Uses Energy Services Company (ESCO) expertise & resources
 - Provides new equipment and services
 - Reduces breakdown and emergency repair
 - Better living and working conditions
 - Reduces emissions
 - Reduces costs
 - Saves energy and meet management goals
- Major contributory to meeting the Army energy reduction goals
- ESPCs have contributed over \$650M in energy infrastructure investments.



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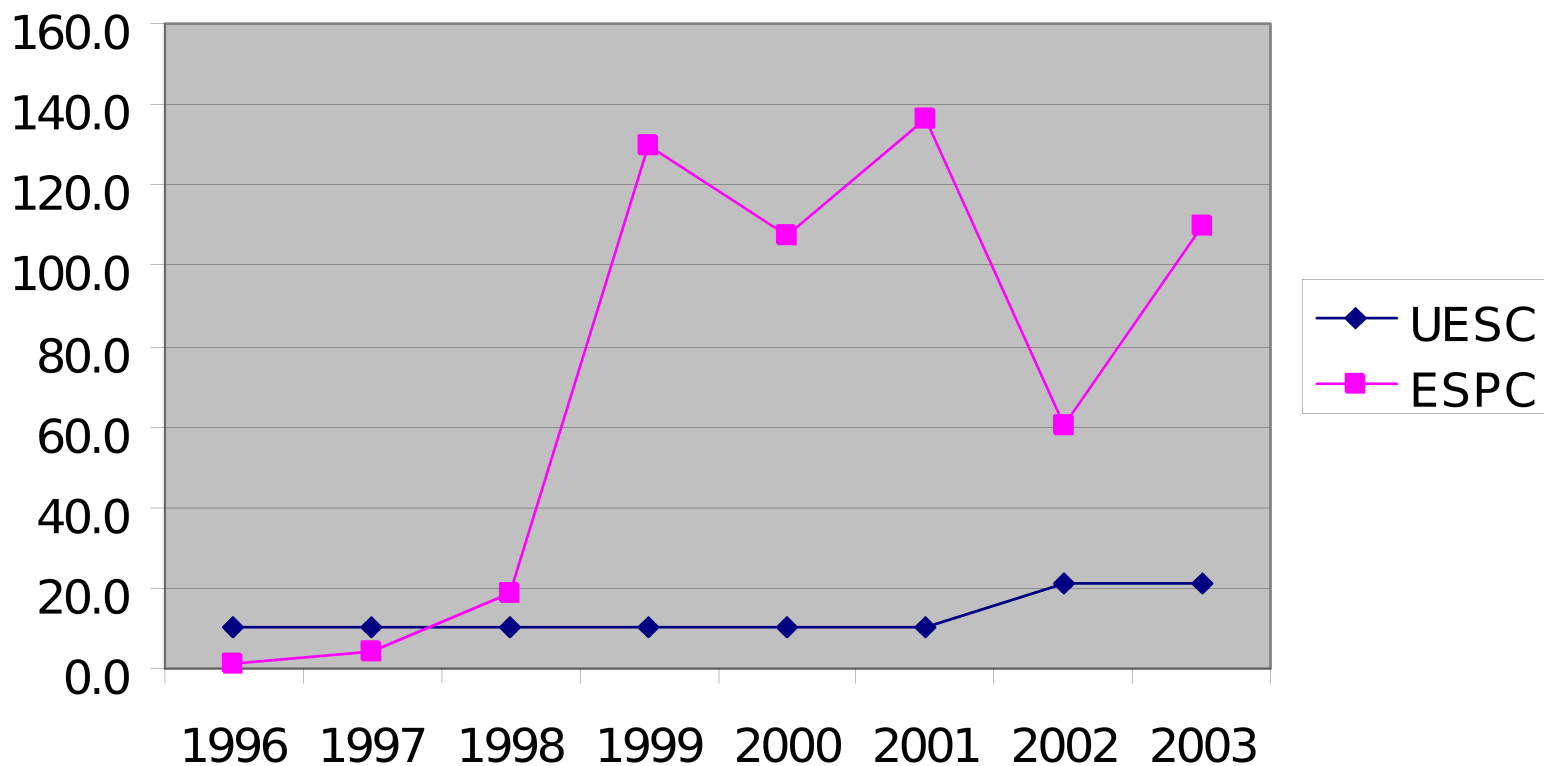
UTILITY ENERGY SERVICE CONTRACTS (UESC)

- **Utilities provide up-front project funding and agencies pay for the services over time on their utility bills**
- **A vehicle for developing, financing, and implementing comprehensive energy/water-conservation projects for federal facilities**
- **Utilities have a long-term interest in their customers, and that's helped us get great deals that meet our needs**
- **The Utility may provide: Audits, Feasibility studies, Design, Financing, Construction, Commissioning, Training of agency personnel.**

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Army Energy Projects



Over \$650 million in contractor investments



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FY 04 ECIP

REGION / COMMAND	Location	Project Description	Proposed Projects \$000
Northwest Region	Ft Lee	High Efficiency Lighting	\$ 980
Northeast Region	Ft Drum	Utility Monitoring & Control System	\$ 5,500
Europe Region*	Wuerzberg	Cnv Stm to HW Heating, Harvey Bks	\$ 1,550
Southeast Region	Ft Campbell	Utility Control System, Ph II	\$ 1,550
Southwest Region	Ft Sill	Energy Monitoring & Control Sys	\$ 1,200
NGB	Leesburg TA	Facility Energy Improvements	\$ 770
USASMDC	Kwajalein	Electric Power, Photovoltaic	\$ 930
Europe Region*	Mannheim BFV	Digital Control System	\$ 2,600
Southwest Region	Ft Sill	Geothermal Heat Pumps	\$ 6,500
Southeast Region	Ft Campbell	Digital Controls for Hangers	\$ 980



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Renewable Energy

- Required to use 5% by 2010
- Solar
- Geothermal
- Wind

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UTILITY PRIVATIZATION (UP)

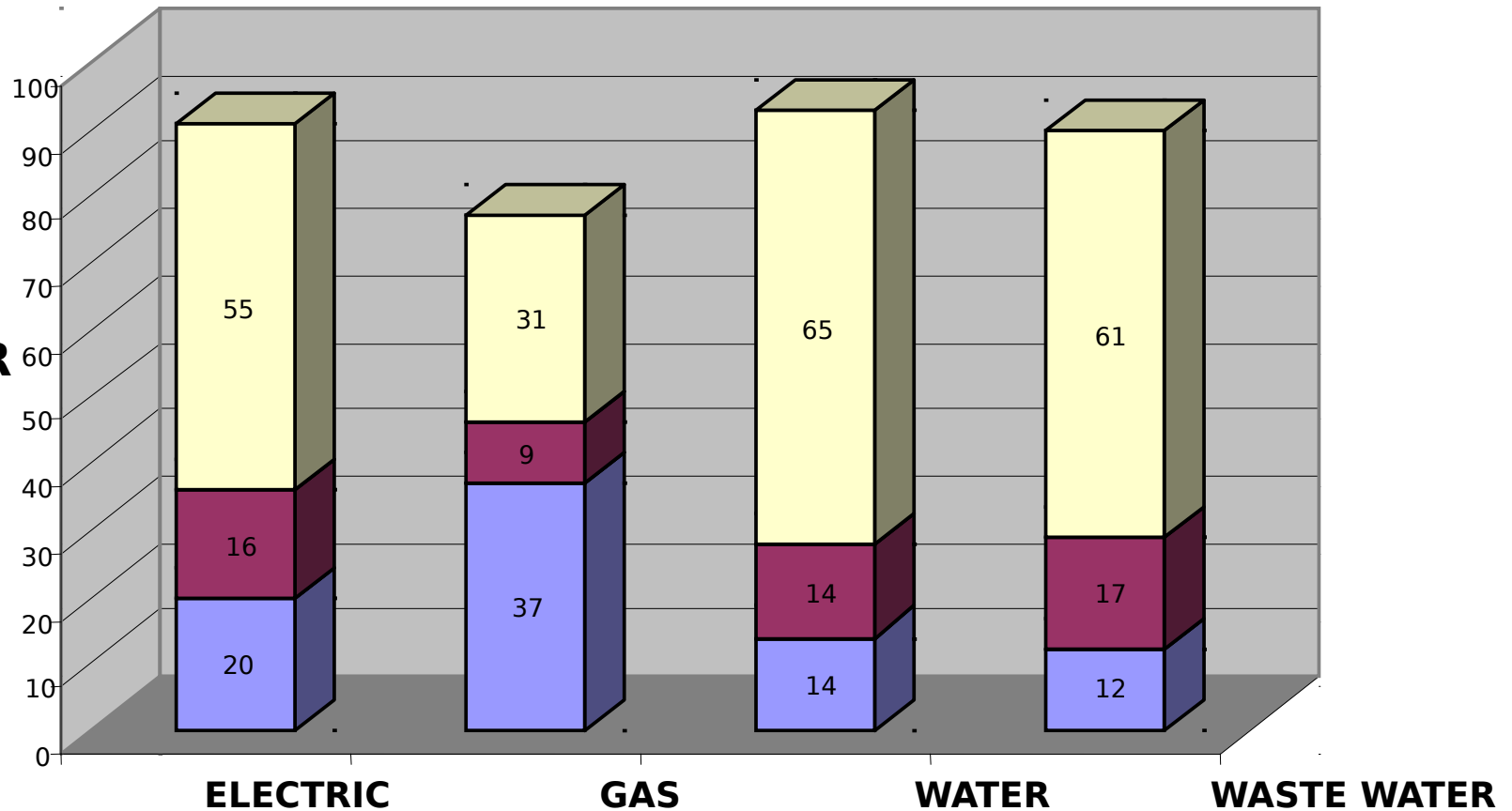
- The transfer of ownership, operations & maintenance, and improvement of the utility plants and systems to municipal, private, local, or regional utility companies.
- Defense Reform Initiative Directive (DRID) # 49, 23 Dec 98 requires “the privatization of utilities and utility systems is to be conducted at all installations, that have utility systems to convey.
- UP takes the burden off the installation and places that responsibility on Utility provider. Under this UP system, Army become a utility customer, not a utility provider.

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UTILITY PRIVATIZATION STATUS

PRIVATIZED DECISION NOT TO PRIVATIZE WORKING





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UTILITY MODERNIZATION PROGRAM (UMP)

**ACSIM will program ^{FY 05-09} funds to modernize
utility systems exempted from privatization.**

ISSUES

- **Estimated cost to upgrade utility systems to C2 condition by 2010 is high -- \$2.3 billion investment.**
- **Privatization -- will not re-capitalize all Army systems.**
- **SRM resources -- required when privatization is not feasible (economic/**



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Utility Modernization (CONUS) Systems that are not privatized

FY 04

Army is planning to get funds
\$20M-\$30M

Regions to provide requirements by 15

Jan 2004

Funding requires to comply with OSD guidance to
upgrade Army owned utility systems to C2 status.



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Central Energy System

Modernization

**Replaces former MACOM
programs (less District**

FY 04 Heat)

**Trying to get \$25M to complete current
CEM contracts.**

**Regions to provide buyout requirements
by TBD**



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WATER CONSERVATION PROGRAM

DEPARTMENT OF ENERGY (DOE) BEST WATER MANAGEMENT PRACTICES

1. Public information and education program
2. Distribution system audits, leak detection and repairs
3. Water efficient landscaping
4. Toilets and urinals
5. Faucets and showerheads
6. Boiler/steam systems
7. Single-pass cooling equipment

8. Cooling tower management

9. Dec 2004 - 15% of bases have implemented at least 4
Miscellaneous high water-using process BMPs

10. Dec 2006 - 40% of bases have implemented at least 4
Water reuse and recycling BMPs

Dec 2008 - 75% of bases have implemented at least 4
BMPs

Dec 2010 - 100% of bases have implemented at least



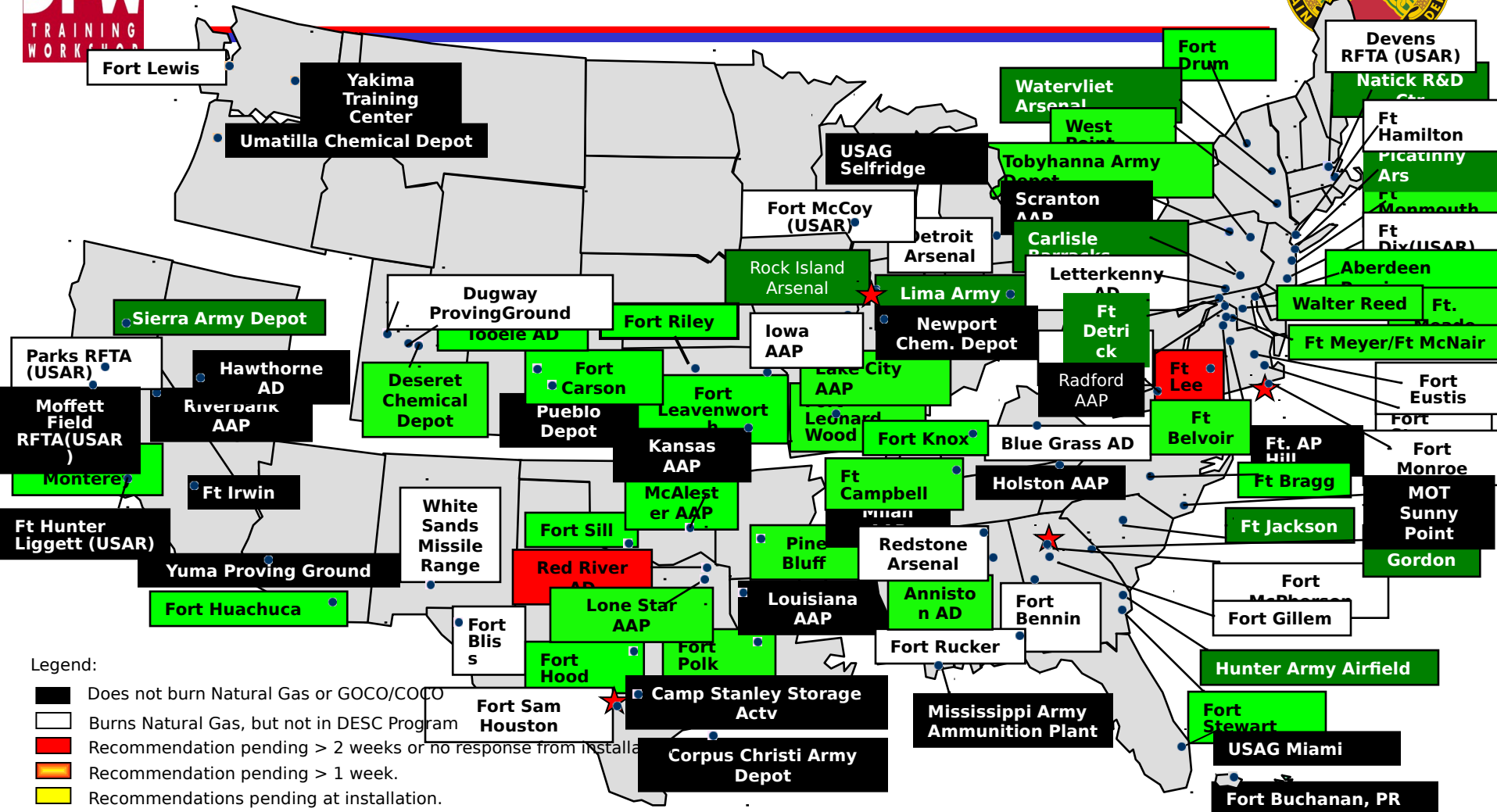
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NATURAL GAS RISK MANAGEMENT PROGRAM

- **Market reached its high on June 6, 2003; \$6.775 per MMBtu for December Natural Gas**
- **December contract has declined since summer high but continues to resist major decline trading near the \$5.00 per MMBtu level**
- **November has been favorable for locking in prices**
 - **Lack of any major heating demand**
 - **No major hurricanes in the Gulf of Mexico**
 - **Favorable storage injections**
- **Storage is full (3,155 Bcf)**
- **Cold weather in early November has kept prices up**

NATURAL GAS RISK PROGRAM UTILITY and ENERGY PROGRAM



Current as of 18 November 2003 12:00 PM



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Coming Events

Army Energy Quality Management Board - Jan 04

Energy Awareness Seminars
Installations at

Various

different times

Installations Selected for FY04

•Fort Bliss

•Fort Lee

•Fort Riley

•Aberdeen Proving
Ground

•Fort Bragg

•Fort Richardson

•221st BSB
Wiesbaden

Seminars

Fort Myer
Community

•Fort Rucker

•Fort Meade

•Fort Carson

•Fort Polk

•Rock Island Arsenal

•100th ASG Vilseck



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ENERGY AND UTILITY MANAGERS

- **Northeast Region (NERO)**
 - **Billy Dancey (Energy)** (757) 788-2473
 - **Dick Yates (UP)** (757) 788-2114
- **Southeast Region (SERO)**
 - **Steve Jackson (Energy)** (404) 464-0703
 - **Don Copeland (UP)** (404) 464-0791
- **Northwest Region (NWRO)**
 - **Thomas Leonard (Energy)** (309) 782-8300
 - **Ben Hulbert (UP)** (309) 782-4871
- **Southwest Region (SWRO)**
 - **Ernesto Ortiz (Energy)** (210) 221-9271
 - **Qaiser Toor (UP)** (210) 221-1940
- **Europe Region (EURO)**
 - **David Yacoub (Energy)** DSN: 314-370-6845
- **Korea Region (KORA)**
 - **Gary Berkner (Energy)** DSN: 315-768-8713
- **Pacific Region (PARO)**
 - **Bill Wong (Energy)** (808) 438-8690



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INSTALLATION MANAGEMENT AGENCY



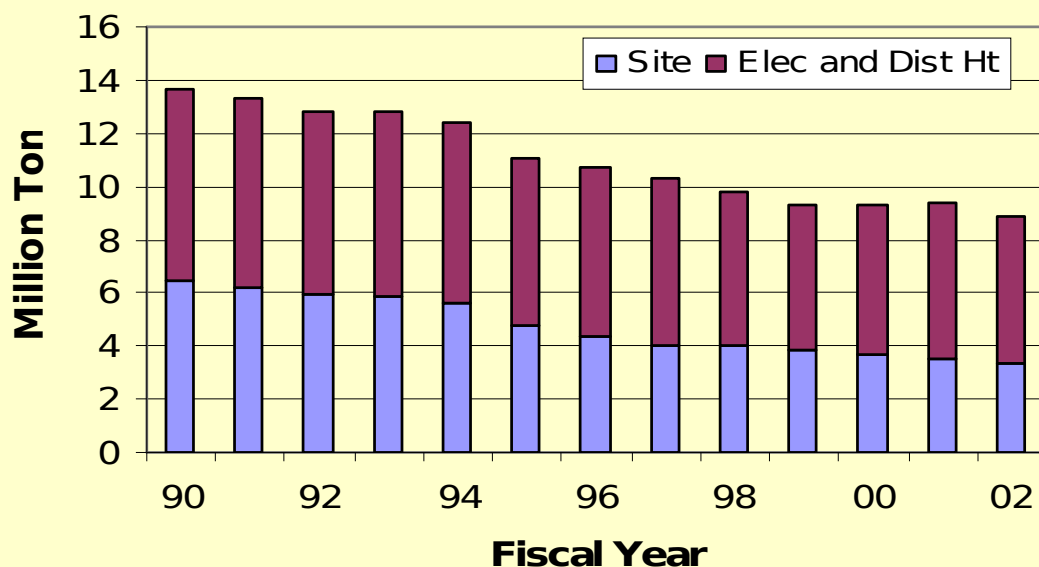
“Sustain, Support and Defend”

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Army Facility CO2 Emissions

Emissions Down 31% FY90-02





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